

REMARKS

The enclosed is responsive to the Examiner's Office Action mailed on January 22, 2008. At the time the Examiner mailed the Office Action claims 1-25 were pending. By way of the present response the Applicants have: 1) amended claims 1-3, 5-6, 9-13, 15, 17-18, 20, 23, and 25; 2) added no new claims; and 3) canceled no claims. As such, claims 1-25 are now pending. The Applicants respectfully request reconsideration of the present application and the allowance of all claims now represented.

Claim Rejections

35 U.S.C. 101 Rejections

Claims 10-25 stand rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For example, claims 10 and 18 have been rejected because they "are directed to a system but the body of the claims are directed to a file repository, a central build module and a file tracking module, which are functionally descriptive material (i.e. software per se...)" (Office Action, page 2).

Applicant has amended claims 10 and 18 to include "a build machine". Applicant respectfully submits that a build machine is not software per se. For example, the specification states "[t]he underlying principles of the invention are not limited to any particular hardware or networking configuration for the nodes 210-215, the build machine 200 and/or the cluster manager 202." (paragraph [0114], emphasis added). In addition, the specification states "[f]or example, in one embodiment, the build machine 200 is equipped with two or more Intel® Xeon™ processors operating at 2.80GHz; 4Gytes of dual channel DDR 266MHz SDRAM memory; and a 600 or more Gbytes SCSI hard drive." (paragraph [0015]). Thus, Applicant respectfully submits that claims 10 and 18 are not directed towards software per se. Since claims 11-17 and 19-25 depend on claims 10 and 18 respectively, Applicant respectfully submits that they are also not directed towards software per se.

Therefore, for at least the reasons above, Applicant respectfully requests withdrawal of the rejections.

35 U.S.C. 112 Rejections

Claims 1-25 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicant has amended claims 1-3, 5-6, 9-10, 11-12, 15, 17, 20, 23, and 25 in response to this rejection. However, the Office Action states that Claims 1-25 are rejected under 35 U.S.C. 112, yet certain claims are not addressed by the Office Action relative to this rejection. For example, claims 4, 7, and 8 have been rejected (claims 1-25 have been rejected), yet Applicant cannot ascertain the rationale behind rejecting claims 4, 7, and/or 8. Applicant respectfully requests clarification if the rejections are maintained for claims 4, 7, and 8.

In addition, the Office Action has summarily rejected claims 11-25 as being rejected under 35 U.S.C. 112 as "they are similar claims of claims 1-20, therefore; they are rejected for the same reason as per claims 1-10" (Office Action, page 4). Applicant has amended the claims, in a similar fashion as the amendments to claims 1-10 where necessary. However, for a similar reason as regarding claims 4, 7, and 8, Applicant respectfully requests clarification of the particular claims and elements of the claims which form the basis of the rejections if these rejections are maintained.

35 U.S.C. 103(a) Rejections

Claims 1-4, 10-13, and 18-21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Burton, U.S. Publication 2003/0126118 (hereinafter “Burton”) in view of Vasilik, U.S. Publication 2003/0163799 (hereinafter “Vasilik”).

Claims 1 and 9 (as amended)

Applicant respectfully submits that the combination of Burton and Vasilik does not teach or suggest the required limitations of amended claim 1. Claim 1 recites (emphasis added):

1. A method implemented within a distributed build system comprising:
scheduling jobs for a build process to execute in **parallel** across a **plurality of nodes**;
transmitting a first source file from a program build file repository to a first node, the first node using the source file to generate a first target file identified in the build process;
receiving a request at a file tracking module for the first source file from a second node; and
the file tracking module redirecting the second node to retrieve the first source file **directly from the first node** rather than from the program build file repository, the second node using the first source file to generate a second target file identified in the build process.

Applicant respectfully submits that the combination of Burton and Vasilik does not teach or suggest the required limitations of amended claim 1.

Burton describes a system for providing access to source files at remote computers over a network (Abstract). For example, with reference to Figure 1, the SCM server 100 receives a request for a source file through the network 120 (e.g., from the SCM client 130). The actual source files are “maintained at **remote storage locations**” (paragraph 0008). For example, the source files are stored in the file storage 330 and

340. The clients, for example clients 130 and 140, may request and download files from the remote storage locations. The remote storage locations (e.g., file storage 330 and 340) are not stored on the clients. For example, the client 130 may access source files stored on the file storage 330 via a network (e.g., a LAN) (they are both part of the same subnet, subnet 350). Thus, although the file storage 330 may be in closer proximity to the client 130 than the server 100, the client 130 is still required to access a remote file storage 330 to access source files. Thus, in essence, Burton describes a system of accessing copies of the source code files in a local area network instead of accessing the source code files across a wide area network. Furthermore, to the extent that Burton describes compiling or building, Burton describes building a project sequentially.

Furthermore, while Burton describes distributing source files to multiple clients, Burton does not describe these clients executing a build process in parallel. For example, when a user of one of the clients wants to access a source file (e.g., when a programmer wants to modify a source file for an application), the client access the source file from the remote storage location (and subsequently locks other clients from modifying that source file), performs any modifications to the source file, and returns the source file to the remote storage location (and subsequently unlocks the source file so other clients may modify the source file) (see Figures 3, 7 and 8). However, Burton does not describe executing a build process in parallel across multiple nodes.

Vasilik describes a method to reduce iterative software development cycles (0020, lines 1-2). Vasilik describes performing modified dependency analyses when building an application and the files from which it depends from one or more source files using a set of prioritized build rules (0020, lines 3-7). Vasilik describes iterating through a list of rules in a "priority order" (0023). Thus, while Vasilik describes a method to reduce software development cycles, Vasilik describes a serial

build process. In addition, Vasilik also does not describe executing a build process in parallel across multiple nodes.

First, Applicant respectfully submits that the combination of Burton and Vasilik does not teach or suggest the limitation “scheduling jobs for a build process to execute in parallel across a plurality of nodes” as required by amended claim 1 (emphasis added).

The proposed combination of Burton and Vasilik would modify Burton with Vasilik so that the system of Burton “can merge individual modifications made to files and groups of files without causing conflicts” (Office Action, page 5). However, even with this modification, the combination does not describe “scheduling jobs for a build process to execute in parallel across a plurality of nodes” as required by amended claim 1. For example, as described previously, to the extent Burton or Vasilik describes a build process or compiling, they describe a build process executing serially. Furthermore, the proposed combination does not teach or suggest a plurality of nodes executing jobs for a build process.

Second, Applicant respectfully submits that the combination of Burton and Vasilik does not teach or suggest the required limitation “the file tracking module redirecting the second node to retrieve the first source file **directly from the first node** rather than from the program build file repository, the second node using the first source file to generate a second target file identified in the build process” as required by amended claim 1 (emphasis added).

The Office Action has taken the position that a remote computer (e.g., a client) of Burton, is analogous to a “node” in amended claim 1.¹ With regards to the above limitation, the Office Action has taken the position that “the second node to retrieve the first source file [directly] from the first node rather than from the program build file repository” is described in Burton 0008, lines 9-11. Applicant respectfully disagrees. Burton, in

¹ See Office Action page 5, where the Office Action alleges that the limitation “receiving a request for the first source file from a second node” is described in Burton, 0008 lines 5-7: “the server receives a request from the remote computer for a filename of a requested file over the network”

paragraph 0008 lines 9011, describes “[t]he server then updates the metadata for the requested file and sends the storage location address to the remote computer” (emphasis added). Burton describes the “storage location address” being located at “remote storage locations” (see Burton 0008). Thus, for example, in Figure 1 of Burton, the client 130 (a remote computer) may retrieve source files from the file storage 330 (a remote storage location). Thus, Burton does not describe a “node” retrieving a source file directly from another “node” as required by amended claim 1. In other words, assuming for argument purposes that a “client” of Burton is analogous to a “node” of claim 1, Burton does not describe the clients retrieving source files directly from each other.

Furthermore, the required limitations in amended claim 1 are not obvious in view of the proposed combination because Applicant's claimed invention allows significant advantages as compared to the combination proposed by the Office Action. For example, node to node communication of source files reduces the data throughput between the build machine and the rest of the system.

Therefore, for at least the above reasons, Applicant respectfully submits that amended claim 1 is allowable. Since claims 2-9 depend on claim 1, Applicant respectfully submits that claims 2-9 are allowable for at least the same rationale.

Furthermore, claim 9 (as amended), which depends on claim 1, requires “wherein the first node copies a portion of the first source file that has been received at the first node to the second node prior to the first node fully receiving all portions of the first source file from the program build file repository”. The Office Action takes the position that the above limitation is described in Kase paragraph 0025 (Office Action page 9). Applicant respectfully disagrees. To the extent, if any, that Kase describes copying a file between nodes, Kase does not describe copying a portion of a file from a first node to a second node prior to the first node receiving all portions of the file.

By way of example and not limitation, source files may be concurrently streamed file from one node to a next node which significantly reduces bandwidth between a build machine and the rest of the system, and reduces the delay for the file upload to subsequent nodes (Specification, paragraph 0124). An example of this concurrent streaming is illustrated in Figure 13 of the current application. By way of example and not limitation, as soon as a single data packet containing File 1 data is received by Node A, Node A will immediately transfer the data packet to Node B (and this process continues until the data is fully copied) (See Figure 13; Specification, paragraph 0125).

Claims 10, 18

Claims 10 and 18 (as amended) include similar limitations of amended claim 1. Therefore, for at least the same reasons as described for amended claim 1, Applicant respectfully submits that claim 10 (as amended) and claim 18 (as amended) are allowable. Since claims 11-17 and 19-25 depend on claims 10 and 18 respectively, Applicant respectfully submits that claims 10 and 18 are allowable for at least the reason they are dependent on an allowable claim.

Claims 5-7, 14-16 and 22-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Burton, in view of Vasilik, and further in view of Miller, U.S. Patent 7,197,547 (hereinafter "Miller").

Claim 7

Claim 7 recites:

The method as in claim 3 further comprising:
determining that the first node and/or the second node are busy and/or do not contain a copy of the first source file; and
redirecting the third node to retrieve the first source file from the program build file repository.

The Office action has "noted at the time of the invention was made to determine that the first node and/or the second node are busy and/or do

not contain a copy of the first source file so that it will improve the system by reducing the latency of delivering a file to a requesting clients” (Office Action page 8). Applicant respectfully submits that the above limitation is not commonly known at the time of the invention. Applicant respectfully requests the Office Action to point out evidence of why the above limitation is noted if the rejection is maintained.

Applicant respectfully submits that claims 5-7, 14-16 and 22-24 are each dependent on an allowable independent claim. Therefore, Applicant respectfully submits that claims 5-7, 14-16 and 22-24 are also allowable for at least the reason they depend on an allowable independent claim.

Claims 8-9, 17 and 25 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Burton, in view of Vasilik, and further in view of Kase, U.S. Publication 2003/0126194 (hereinafter “Kase”). Applicant respectfully submits that claims 8-9, 17 and 25 are each dependent on an allowable independent claim. Therefore, Applicant respectfully submits that claims 8-9, 17 and 25 are also allowable for at least the reason they depend on an allowable independent claim.

In light of the comments above, the Applicants respectfully request the allowance of all claims.

CONCLUSION

Applicant respectfully submits that all rejections have been overcome and that all pending claims are in condition for allowance.

If there are any additional charges, please charge them to our Deposit Account Number 02-2666. If a telephone conference would facilitate the prosecution of this application, the Examiner is invited to contact Thomas C. Webster at (408) 720-8300.

Respectfully submitted,

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